

Briefing



The North Sea's super polluters: no excuse to delay action on flaring and venting

November 2023

Summary

Despite calls from the Climate Change Committee, the Environmental Audit Committee and the Mission Zero Review, the government is refusing to bring forward a ban on routine flaring and venting in the North Sea. As well as being highly polluting and contributing to climate change, this is a scandalous waste of gas.¹

The government fears that a ban would force some oil and gas fields to close earlier than planned, reducing domestic production and increasing imports from countries with higher emissions.²

Our analysis of data from the North Sea Transition Authority shows that this fear is ungrounded. Forcing companies to clean up their act sooner would bring 2.5 times more gas to market than might be lost by closing down the most polluting sites.

The government has no reason not to act and should bring forward the ban on routine flaring and venting by five years from 2030 to 2025 at the latest.

Methane in the North Sea

A transition away from oil and gas in the North Sea is inevitable. There is clear evidence that a continued reliance on fossil fuels will not lower energy bills or shelter the UK from international shocks to its energy supply. Balancing the speed at which the transition needs to happen, while ensuring energy security and support for workers in green industries is a sizeable challenge. Understandably, these issues dominate political discourse.

But there is also a less heard story of the North Sea. Methane, a potent greenhouse gas nearly 30 times stronger than carbon dioxide, is routinely emitted at existing unproductive oil and gas fields. This is contributing significantly to global warming and increases reliance on gas imports.

For the sites that produce the most methane, we have identified different pathways to mitigate their polluting impact. Natural gas, which mostly

consists of methane, is a byproduct of oil extraction. When there is a lack of infrastructure to capture it, it is disposed of by venting it directly to the atmosphere or flaring to burn it off. Both processes are extremely polluting but are carried out routinely on rigs in the North Sea.

Following a World Bank initiative, in 2020 the UK government agreed to phase out routine venting and flaring by 2030, but this target falls short of ambition seen elsewhere and is five years later than recommended by the Climate Change Committee.³

Norway, which owns a large fraction of the North Sea’s oil and gas reserves, banned non-emergency flaring in its own jurisdiction in 1971 and applies a hefty tax on methane venting.⁴ As a result, its emissions from the North Sea are five times lower than the UK’s.⁵ The Netherlands and Denmark also extract oil and gas from the North Sea with lower emissions than the UK.⁶ The International Energy Agency demonstrated that there are no technical barriers to ending routine venting and flaring, as upgraded machinery and new vapour recovery units can capture the gas being disposed of.⁷

The worst offenders at a glance

We reviewed the 40 most polluting oil and gas hubs in the UK North Sea. These sites contribute most of the venting and flaring that occurs under the UK’s jurisdiction and are categorised in the table below.

Category	Date expected to end production	Contribution to venting and flaring (2021)⁸	UK North Sea oil and gas production (2021)⁹	Number of hubs and platforms
Older ‘super polluting’ fields, now unproductive ¹⁰	By the end of 2030	33% of all flaring 66% of all venting	13% of oil production and 0.2% of gas	14
Newer fields that should clean up now ¹¹	Beyond 2030	40% of all flaring 26% of all venting	42% of oil production and 41% of gas	18
Older fields, still relatively productive ¹²	By the end of 2030	13% of all flaring 8% of all venting	8% of oil and gas production	8

Low producing, ‘super polluting’ fields

There are 14 sites in North Sea producing negligible amounts of oil and gas while still polluting the air and damaging the climate. Our analysis found that, in 2021, these produced just 13 per cent of the UK North Sea’s oil and only 0.2 per cent of its gas but they accounted for a third of all flaring and two thirds of all venting. Over 250 million cubic metres of methane were flared or vented from these sites, equivalent to the consumption of nearly 250,000 average homes. Often this is because the sites have never been connected to gas pipelines, to transport the gas to market.

All these sites are due to close by the end of 2030, with most expected to end production sooner. Due to the pollution caused and the low economic reward of these fields, they should all be closed down as soon as possible and capped off to prevent further methane release. If all these sites were closed in 2024, it would prevent over 700 million cubic metres of natural gas from being vented and flared in the coming years.

Since 80 per cent of the UK’s domestic oil production is exported, and these sites are barely producing any gas, early closure would have no impact on the UK’s energy supply but would bring down emissions. The intention to maximise the perceived economic potential of these ‘super polluting’ fields cannot be used as an excuse to delay the ban on routine flaring and venting. Only one of the 14 sites is owned by a British company.

The workers on these sites should be given support to retrain and reskill. At present, the North Sea Transition Deal is weak on skills policy, as oil and gas companies are not required to provide retraining, compensation or support, leaving workers to pay for their own new certifications when needed.¹³ A new deal must be developed that centres on workers and communities but, in the interim, special attention should be paid to sites where closure is imminent.

More productive fields should clean up their act before 2030

There are 18 sites which produce higher volumes of oil and gas but which still vent and flare considerable amounts of methane. In 2021, they were responsible for 26 per cent of all venting and 40 per cent of all flaring in the North Sea, while producing just over 40 per cent of the North Sea’s oil and gas.

These sites are set to operate beyond 2030, so will need to introduce measures to stop routine flaring and venting to comply with the North Sea Transition Authority’s programme. As they sell gas to the market, they are already connected to gas transport pipelines so have no excuse not to capture the methane being discharged now.

If the government brought forward the ban on routine venting and flaring to 2025, in line with guidance from the Climate Change Committee, it would prevent 150 million cubic metres of gas being flared or vented from these sites each year to 2030. This quantity of gas could supply almost 140,000 homes, more than enough for a city the size of Aberdeen.¹⁴

The volume of extra gas that could be captured at these 18 sites is 2.5 times more than is currently supplied from the 14 ‘super polluting’ sites. This is more significant to the UK’s energy supply than the continued exploitation of dwindling reserves.

Site-specific exemptions could be awarded if needed

There are a further eight fields producing higher volumes of fossil fuels, which are nevertheless due to close before the end of 2030. They produce eight per cent of the North Sea’s oil and gas. If it is not feasible or economic to upgrade technology within the site’s expected lifespan, they could be exempted from an earlier ban on routine flaring and venting on a case by case basis. But, if they apply to extend production beyond their current decommissioning date, they should be required to pay large fines for avoiding the flaring and venting ban and continuing to release methane.

The ban should be brought forward to 2025

The UK’s progress on cutting methane emissions has stalled since 2015. At its current rate, it is on track to reduce emissions by a maximum of 19 per cent by 2030, far short of what is required under the Global Methane Pledge, which it has signed.¹⁵ Bringing forward the ban on routine venting and flaring is an easy way to curb emissions and accelerate progress, with no negative impact on energy security.

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Endnotes

¹ BBC News, 28 November 2022, ‘Climate change: Wasted methane gas ‘a scandal’

² See response R2023-095 of ‘Committee on Climate Change 2023 progress report: government response’, October 2023, Department of Energy Security and Net Zero

³ Climate Change Committee, June 2023, *Progress in reducing emissions: 2023 report to parliament*

⁴ FlareIntel, 8 October 2020, 'Tackling flaring: lessons from the North Sea'

⁵ Institute for Energy Economics and Financial Analysis, 2023, *UK offshore flaring and venting*

⁶ FlareIntel, 8 October 2020, op cit

⁷ International Energy Agency, 21 February 2023, 'Methane tracker'

⁸ North Sea Transition Authority, 'UKCS offshore flaring and venting intensity'

⁹ North Sea Transition Authority, 'Liquids production' and 'Net gas production'

¹⁰ The following hubs are included in this category: Aoka Mizu, Auk, Brae A, Forties, Chestnut, Claymore, Clyde, Cormorant A, Cormorant North, Ninian, Piper, Scott, Tiffany and Western Isles.

¹¹ The following hubs are included in this category: Alwyn North, Anasuria, Andrew, Armada Kraken, Beryl, Britannia, Buzzard, Captain, Culzean, Cygnus, Elgin Franklin, Etap, Glen Lyon, GPIII, Magnus, Mariner, Shearwater and Stella.

¹² The following hubs are included in this category: Armada, Bleo Holm, Brae East, Bruce, Gannet A, Gryphon A, Montrose A and Triton.

¹³ Oil and Gas Transitions, 2021, *The future is built on the past: just industrial energy transitions in the UK and Scotland*

¹⁴ In total, these sites vented and flared 10.4 billion cubic feet of gas in 2021. The North Sea Transition Authority considers about half of all flaring and venting to be routine and we, therefore, estimate that 5.2 billion cubic feet of gas could be brought to market if routine flaring and venting were stopped.

¹⁵ L Hardy and D Benton, November 2023, *Why the UK should do more to cut methane emissions*, Green Alliance